Predicted savings

As shown in figure 4, we can calculate the expected value of savings for a completed study from the empirical results just presented. We used this method to calculate the expected savings for competing the entire 1995 CA Inventory. The 1995 CA Inventory in table 12 represents 389,090 civilian and military billets (64 percent are civilian). There are 13,382 individual functions spread across DoD with an average size of 29 billets (142 distinct function titles spread across 4,977 distinct locations).

Table 12. 1995 DoD commercial activities inventory by military service over function groups

Function group	DoD agencies	Army	Air Force	Marine Corps	Navy	Total
Social Services	12,990	4,066	2,771	980	5,967	26,774
Health		33,826	3,356	57	27,613	64,852
Intermediate Maintenance	145	4,135	8,858	622	21,574,	35,334
Depot Maintenance	316	10,393	871	2,157	30,132	43,869
BOS Multifunction		844				844
RDT&E Support		571	4,021		4,156	8,748
Installation Services	25,208	17,119	16,007	7,959	23,809	90,102
Other Nonmanufacturing	15,714	12,991	4,410	3,212	21,190	57,517
Training	77	1,904	3,893	1,602	16,777	24,253
ADP	3,060	5,329	703	763	4,650	14,505
Manufac. and Fabrication	586	2,754		10	575	3,925
RPM	429	5,099	4,199	1,730	6,910	18,367
Total	58,554	99,031	49,089	19,092	163,353	389,090

Table 13 summarizes our predicted savings for competing the entire 1995 DoD CA Inventory. The blanks in the table stand for functions that do not show up in the inventory, and the zeros stand for functions that have zero predicted savings.[13] These predictions assume that all the studies are completed. However, these estimates

are not necessarily an upper bound on savings, since the CA Inventory may not capture all the candidates for competition and savings per billet competed could be larger than in the past.[14]

Table 13. Predicted annual savings for the 1995 CA inventory by function assuming all competitions are completed[a]

Function group	DoD agencies	Army	Air Force	Marine Corps	Navy	Total
Social Services	114	63	13	11	80	281
Health		579	26	0	555	1,160
Intermediate Maintenance	1	16	90	2	252	360
Depot Maintenance	2	42	11	21	63	140
BOS Multifunction		20				20
RDT&E Support		39	613		77	729
Installation Services	242	433	464	208	463	1,808
Other Nonmanufacturing	119	241	47	49	425	881
Training	0	0	0	6	169	175
ADP	3	71	5	8	35	123
Manufac. and Fabrication	9	66		3	41	119
RPM	7	117	99	35	137	396
Total	498	1,686	1,368	345	2,297	6,193

a. Savings are in millions of FY 1990 dollars.

The predicted savings presented here are larger than the savings predicted in the companion document [8]. The results presented there do take account of differences in savings by service and function group, but the predicted savings presented here also account for other study characteristics such as differences in the percent of military billets and nonlinear size effects.

13. In some cases, the expectedvalue of savings was negative. In these cases, expected savings were set equal to zero.

14. One reason savings may be higher is that DoD may be able to learn from past experiences competing CA functions and improve the process. This may explain the apparent upward slope in figure 3.

The large potential savings in installation services are not surprising. This area saw large savings in the past and also represents a large portion of the 1995 inventory. Health is also an area with large savings potential, even though the savings per billet competed previously have been low.

The differences across services are primarily due to differences in the level and make-up of their respective inventories. The different inventory practices across services may distort true savings potential across services. See [7, 9] for a discussion of inventory differences.

Table 14 presents the same savings from table 13 by the reason code used to justify not competing the function. This allows us to see the potential savings that are being prevented for each reason code. This can be viewed as the opportunity cost of using the reason codes.

Table 14. Predicted annual savings for the 1995 CA inventory by reason previously given **for not competing (also assuming all competitions are** completed)[a]

Reason code	DoD agencies	Army	Air force	Marine Corps	Navy	Total
National defense	7	84		31	12d	242
Training or experience (rotation and sea/shore)	0.3	54		86	974	'1,115
Unacceptable delay or disruption	5	11	1	0.01		17
No commercial source		3	19	0		22
Government is low cost	4	44	32	9	0	89
Cost comparison is scheduled	221	17	107	5		350
Conversion in progress		4		1		6
Patient care in DoD hospital			1			1
Converting to contract (noncost reason)		0.3	2	17		19
Other					0	0
Review in progress (base closure, etc)	1	807	82		998	'1,888
RTD&E exempted function					13	13
Approved as governmental					0.2	0.2
Installation commander decision	161	104	488	5		758
Cost study exceeded time limit	11	202	6	96		315
Exempted by higher authority or law	88	347	630	94	193	'1,351
Other or missing		8				8
Total	498	1,686	1,368	345	2,297	(5,193

a. Savings are in millions of FY 1996 dollars.

The only reason code outside of the control of DoD is the last one, "exempted by higher authority or law." Even this reason is subject to interpretation, as evidenced by the large cross-service differences. The large savings for the Navy in "training or experience" represent the Navy's sea/shore rotation policy. Possibilities for outsourcing billets in this category are discussed in our work with the Navy CA program [2].

The "review in progress" category is primarily due to BRAC actions. DoD may want to reconsider exempting these billets from study. While the ongoing review may complicate a study, it may also be a case where the transition to an MEO or contractor performance would be less troublesome. For example, if the function has moved locations, there may be many vacant positions. Transitioning with vacant positions would be easier than filling the positions first and then initiating a CA study.

The "installation commander's decision" may represent cases where savings are not being achieved due to bad incentives. In the past, most of the costs associated with an A-76 study were incurred at the installation level while the savings were taken at a higher level. If the installation was allowed to share some of the savings, it might use A-76 as a tool rather than treating it as an unpleasant required task.[15]

Table 15 shows the predicted savings adjusted for the probability of being completed. The probability of being completed is based on the model presented in table 5. This shows the large cost of not completing studies. For example, the predicted savings for the health category drop from $1.2 billion to $43 million. This is due to the very low completion rate for health competitions in the past. This table suggest the need to monitor competition cancellations closely.

As the Navy and DoD embark on a new round of A-76 competitions, they should be aware of their past experiences as a guide for maximizing savings and avoiding past mistakes. They should also be more careful about collecting new data as suggested in [7, 8]. Part of this data collection effort should be a reexamination of the billets

15. Incentives in the A-76 process are also discussed in [2, 15].

classified as inherently governmental. There is strong evidence that potential savings could be almost double what is presented here if all the services are agressive in pursuing competition candidates.[16]

Table 15. Predicted annual savings from competing the 1995 CA inventory (historical completion rate)[a]

Function group	DoD agencies	Army	Air Force	Marine Corps	Navy	Total
Social Services	31	48	10	4	60	154
Health		23	4	0	15	43
Intermediate Maintenance	0.2	10	56	0.4	154	220
Depot Maintenance	0.1	19	5	1	44	70
BOS Multifunction		11				11
RDT&E Support		18	258		40	316
Installation Services	88	327	333	59	325	1,132
Other Nonmanufacturing	88	144	28	12	291	564
Training	0	0	0	0.003	34	34
ADP	1	28	2	1	14	46
Manufacturing and Fabrication	0.04	12		0.1	4	16
RPM	2	86	75	11	91	265
Total	211	728	772	a9	1,071	2,871

a. Savings are in millions of FY 1996 dollars.

16. See [9] for details.